

LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A metallurgical furnace comprising:

an outer casing plate defining a casing of the metallurgical furnace and having an outside surface facing away from an inside of the metallurgical furnace;

a cooling plate comprised of copper or a low-alloy copper alloy provided inward of the outer casing plate;

a fixed-point securing element securing the cooling plate to the outer casing plate at a central region of the cooling plate;

at least one coolant passage running inside the cooling plate;

coolant pipe sections connected with the at least one coolant passage for enabling coolant to flow respectively in and out of the coolant passages, the coolant pipe sections leading to outside of the furnace cooling plate through the outer casing plate;

the cooling plate comprising holding pipes thereon leading to the outside through the outer casing plate;

second securing elements supported against the outside surface of the outer casing plate to allow movement of the cooling plate in both a vertical direction and a horizontal direction and to prevent movement of the cooling plate in a direction inward with respect to the furnace, the second securing elements securing the holding pipes;

the holding pipes and the securing elements being comprised of a material with a greater strength than the copper or low-alloy copper alloy of the cooling plate; and

each coolant pipe section of the coolant pipe sections being led to the outside of the outer casing plate inside a respective holding pipe of the holding pipes and each coolant pipe section and the respective holding pipe section are sized to provide a clearance between them.

2. (Previously Presented) The furnace as claimed in claim 1, wherein the cooling plate has a height/width ratio of ≥ 3 ;

the furnace further comprising at least one movable-point securing element arranged at least one of above and below the fixed-point securing element, and the movable-point securing element is operable to allow mobility of the cooling plate only in the vertical direction.

3. (Previously Presented) The furnace as claimed in claim 1, wherein the cooling plate has a height/width ratio of < 3;

the furnace further comprising at least one moveable-point securing element arranged to at least one of the left and the right of the fixed-point securing element, and the movable-point securing element is operable to allow mobility of the cooling plate only in the horizontal direction.

4. (Previously Presented) The furnace as claimed in claim 1, wherein the cooling plate has tongues and grooves on a side thereof which faces the interior of the furnace, and the tongues are segmented in a longitudinal direction of the tongues.

5. (Canceled)

6. (Previously Presented) The furnace as claimed in claim 1, further comprising a connecting piece provided between the holding pipe and the respective coolant pipe section.

7. (Previously Presented) The furnace as claimed in claim 1, further comprising a coolant pipe section formed as a single part and including a flange secured to the cooling plate.

8. (Previously Presented) The furnace as claimed in claim 7, wherein each holding pipe surrounds the coolant pipe section and is secured to the flange.

9. (Previously Presented) The furnace as claimed in claim 1, wherein the pipe sections for coolant to flow in and out are made from the same material as the cooling plate.

10. (Previously Presented) The furnace as claimed in claim 1, wherein the pipe section is both a holding pipe and a coolant pipe section.

11. (Previously Presented) The furnace as claimed in claim 1, wherein the pipe sections for coolant to flow in and out are made from the same material as the holding pipes.

12. (Previously Presented) The furnace of claim 1, wherein at least two of the coolant passages run inside the cooling plate.

13. (Previously Presented) The furnace of claim 1, wherein the securing elements are applied to the holding pipes after the holding pipes have passed through the outer casing plate to the outside.

14. (Previously Presented) The furnace of claim 1, wherein the securing elements securing the holding pipes comprise holding plates or holding disks.

15. (Previously Presented) The furnace of claim 1, wherein the fixed-point securing element secures the cooling plate to the outer casing plate in a central region of the cooling plate.

16. (Previously Presented) The furnace of claim 3, wherein the cooling plate has a height/width ratio of < 2.

17. (Previously Presented) The furnace of claim 5, wherein the holding pipe is secured directly to the cooling plate.

18. (Previously Presented) The furnace of claim 17, wherein the securement of the holding pipes to the cooling plate is by screwing or welding.

19. (Previously Presented) The furnace of claim 6, wherein the connecting piece is in the form of a ring or a disk.

20. (Previously Presented) The furnace of claim 1, further comprising at least one movable-point securing element arranged at least one of above and below the fixed-point securing

element, and the movable-point securing element is operable to allow mobility of the cooling plate only in the vertical direction.

21. (Previously Presented) The furnace of claim 1, further comprising at least one moveable-point securing element arranged to at least one of the left and the right of the fixed-point securing element, and the movable-point securing element is operable to allow mobility of the cooling plate only in the horizontal direction.

22. (Currently Amended) A cooling plate for use in a metallurgical furnace having an outer furnace casing plate with an inside and an outside, the cooling plate comprising:

a plate positioned on the inside of the outer furnace casing plate and comprising copper or a low-alloy copper alloy;

a fixed-point securing element securing the cooling plate to the outer furnace casing plate at a central region of the cooling plate;

at least one coolant passage running inside the cooling plate;

coolant pipe sections connected with the at least one coolant passage for enabling coolant to flow respectively in and out of the coolant passages, the coolant pipe sections leading to outside of the furnace casing plate through the outer furnace casing plate;

the cooling plate having holding pipes thereon leading to the outside;

second securing elements supported against the outside of the outer furnace casing plate to allow movement of the cooling plate in both a vertical direction and a horizontal direction and to prevent movement of the cooling plate in a direction inward with respect to the metallurgical furnace, the second securing elements securing the holding pipes;

securing elements comprised of a material with a higher strength than the copper or low-alloy copper alloy of the cooling plate, the securing elements and the holding pipes being configured to secure the cooling plate to the outer furnace casing plate; and

each coolant pipe section of the coolant pipe sections being led to the outside of the outer furnace casing plate inside a respective holding pipe of the holding pipes and each coolant pipe section and the respective holding pipe section are sized to provide a clearance between them.

23. (Canceled)

24. (Previously Amended) The cooling plate of claim 22, wherein the cooling plate has a height/width ratio of ≥ 3 ;

the cooling plate further comprising at least one movable-point securing element arranged at least one of above and below the fixed-point securing element, and the movable-point securing element is operable to allow mobility of the cooling plate only in the vertical direction.

25. (Previously Presented) The cooling plate of claim 22, further comprising at least one movable-point securing element arranged at least one of above and below the fixed-point securing element, and the movable-point securing element is operable to allow mobility of the cooling plate only in the vertical direction.

26. (Previously Presented) The cooling plate of claim 22, wherein the cooling plate has a height/width ratio of < 3 ;

the cooling plate further comprising at least one moveable-point securing element arranged to at least one of the left and the right of the fixed-point securing element, and the movable-point securing element is operable to allow mobility of the cooling plate only in the horizontal direction.

27. (Previously Presented) The cooling plate of claim 22, further comprising at least one moveable-point securing element arranged to at least one of the left and the right of the fixed-point securing element, and the movable-point securing element is operable to allow mobility of the cooling plate only in the horizontal direction.